

**CLAIMS**

1. A Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant or derivative thereof.

5 2. A nucleic acid encoding a polypeptide according to Claim 1.

3. A nucleic acid according to Claim 2, comprising the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant or derivative thereof.

10 4. A polypeptide comprising a fragment of a polypeptide according to Claim 1.

5 5. A polypeptide according to Claim 3 which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises  
15 one or more regions which are heterologous between the pair.

6. A nucleic acid encoding a polypeptide according to Claim 4

7. A nucleic acid encoding a polypeptide according to claim 5.

8. A vector comprising a nucleic acid according to Claim 2.

9. A vector comprising a nucleic acid according to Claim 3.

20 10. A vector comprising a nucleic acid according to Claim 6.

11. A vector comprising a nucleic acid according to Claim 7.

12. A host cell comprising a nucleic acid according to Claim 2

13. A host cell comprising a nucleic acid according to claim 3.

14. A host cell comprising a nucleic acid according to Claim 6.

25 15. A host cell comprising a nucleic acid according to Claim 7.

16. A host cell comprising a vector according to Claim 8.

17. A host cell comprising a vector according to Claim 9.

18. A host cell comprising a vector according to Claim 10.

19. A host cell comprising a vector according to Claim 11.

20. A transgenic non-human animal comprising a nucleic acid according to Claim 2.

21. A transgenic non-human animal comprising a nucleic acid according to Claim 3.

22. A transgenic non-human animal comprising a nucleic acid according to claim 6.

23. A transgenic non-human animal comprising a nucleic acid according to Claim 7.

24. A transgenic non-human animal comprising a vector according to Claim 8.

25. A transgenic non-human animal comprising a vector according to claim 9.

26. A transgenic non-human animal comprising a vector according to claim 10.

27. A transgenic non-human animal comprising a vector according to claim 11.

28. A transgenic non-human animal according to any of claims 20 to 27 which is a mouse.

29. A method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor.

30. A method of using a transgenic non-human animal according to any of claims 20 to 27 in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor.

31. A method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting.

32. A method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting.

33. A method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide.

5 34. A compound identified by a method according to any of Claims 29 to 33.

35. A compound capable of binding specifically to a a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5.

10 36. A method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof, or a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID  
15 NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue,  
20 variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method for producing antibodies.

25 37. An antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof, or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising  
30 the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or

fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof.

38. A pharmaceutical composition comprising any one or more of the following:

i.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

ii.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

iii.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic

acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

iv.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

v.) a compound identified by:

a.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

b.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

c.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

d.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

e.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more

regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

vi.) a compound capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5; or

vii.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences

selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

together with a pharmaceutically acceptable carrier or diluent.

5           39.     A vaccine composition comprising any one or more of the following:

          i.)     a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

10           ii.)    a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

          iii.)    a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID



NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

iv.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

v.) a compound identified by:

a.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method

of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

b.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

c.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

d.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

e.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant,

derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a  
5 homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound  
10 which is capable of interacting specifically with a G protein coupled receptor;

vi.) a compound capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5; or

15 vii.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising  
20 the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ  
25 ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between  
30 the pair, or part thereof.

40. A diagnostic kit for a disease or susceptibility to a disease comprising any one or more of the following:

i.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

ii.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

iii.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

iv.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID

NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

v.) - a compound identified by:

a.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

b.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a

candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

c.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

d.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

e.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a

homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

5 vi.) a compound capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5; or,

10 vii.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, 15 SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and 20 SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof.

41. A method of treating a patient suffering from a disease associated with enhanced activity of a Conrad GPCR, which method comprises administering to the patient an antagonist of Conrad GPCR.

42. A method of treating a patient suffering from a disease associated with reduced activity of a Conrad GPCR, which method comprises administering to the patient an agonist of Conrad GPCR

43. A method according to Claim 23, in which the Conrad GPCR comprises a polypeptide having the sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17.

44. A method according to Claim 24, in which the Conrad GPCR comprises a polypeptide having the sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17.

45. A method for treating and/or preventing a disease in a patient, which comprises the step of administering any one or more of the following to the patient:

i.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

ii.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

iii.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic



acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

iv.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

v.) a compound identified by:

a.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

b.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

c.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

d.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

e.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more

regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

vi.) a compound capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5;

vii.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences

selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

viii.) a pharmaceutical composition comprising any one or more of the

5 following:

a.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

10 b.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4,  
15 SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID  
20 NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

c.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID  
25 NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or  
30 SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are

homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

d.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

e.) a compound identified by:

1.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a

homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

2.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

3.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

4.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

5.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad

GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

f.) a compound capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5; or,

g.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and

wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are  
5 heterologous between the pair, or part thereof;

together with a pharmaceutically acceptable carrier or diluent; or,

ix.) a vaccine composition comprising any one or more of the following:

a.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID  
10 NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

b.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the  
15 nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid  
20 may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof;

c.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID  
25 NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or  
30



SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which  
5 comprises one or more regions which are heterologous between the pair;

d.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid  
10 optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which  
15 comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence  
20 shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID  
25 NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

30 e.) a compound identified by:

1.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

2.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

3.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

4.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

5.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO:

3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

f.) a compound capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5; or,

g.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO:

1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which  
5 comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof.

46. An agent comprising one or more of:

10 i.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

15 ii.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and  
20 wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part  
25 thereof;

30 iii.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ

ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which  
5 comprises one or more regions which are heterologous between the pair;

iv.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair  
10 of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally  
20 which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

v.) a compound identified by:

a.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9,  
30

SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

5           b.)     a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

10           c.)     a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

15           d.)     a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

20           e.)     a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, 25           SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more 30           regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the

amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9,  
SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant,  
derivative or fragment thereof, wherein the nucleic acid optionally comprises the  
nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4,  
5 SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12,  
SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a  
homologue, variant, derivative or fragment thereof, wherein the polypeptide  
optionally which comprises one or more regions which are homologous between a  
pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one  
10 of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions  
which are heterologous between the pair, in a method of identifying a compound  
which is capable of interacting specifically with a G protein coupled receptor;

vi.) a compound capable of binding specifically to a Conrad GPCR polypeptide  
comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID  
15 NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant,  
derivative or fragment thereof, or a polypeptide according to claim 5; or,

vii.) an antibody capable of binding specifically to a Conrad GPCR polypeptide  
comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID  
NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant,  
20 derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to  
a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising  
the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID  
NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or  
fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence  
25 shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7,  
SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ  
ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof,  
and wherein the nucleic acid may further optionally encode a polypeptide which  
comprises one or more regions which are homologous between a pair of sequences  
30 selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and

SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof,

said agent for use in a method of treatment or prophylaxis of disease.

47. A method of using:

5 i.) a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof;

10 ii.) a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and  
15 wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part  
20 thereof;

iii.) a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic  
25 acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID  
30 NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;



iv.) a cell comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair;

v.) a compound identified by:

a.) a method of using a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

b.) a method for identifying an antagonist of a Conrad GPCR, the method comprising contacting a cell which expresses Conrad receptor with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

5 c.) a method for identifying a compound capable of lowering the endogenous level of cyclic AMP in a cell which method comprises contacting a cell which expresses a Conrad GPCR with a candidate compound and determining whether the level of cyclic AMP (cAMP) in the cell is lowered as a result of said contacting;

10 d.) a method of identifying a compound capable of binding to a Conrad GPCR polypeptide, the method comprising contacting a Conrad GPCR polypeptide with a candidate compound and determining whether the candidate compound binds to the Conrad GPCR polypeptide; or

15 e.) a method of using a transgenic non-human animal comprising a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6,  
20 SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, or a vector comprising a nucleic acid encoding Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant,  
25 derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4,

SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, wherein the polypeptide optionally which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a method of identifying a compound which is capable of interacting specifically with a G protein coupled receptor;

vi.) a compound capable of binding specifically to a Conrad GPCR polypeptide

comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5; or

vii.) an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID

NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or

fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which

comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof,

for the preparation of a pharmaceutical composition for the treatment or prophylaxis of a disease.

48. A non-human transgenic animal, characterised in that the transgenic animal comprises an altered Conrad gene.

49. A non-human transgenic animal according to Claim 48, in which the alteration is selected from the group consisting of: a deletion of Conrad, a mutation in  
5 Conrad resulting in loss of function, introduction of an exogenous gene having a nucleotide sequence with targeted or random mutations into Conrad, introduction of an exogenous gene from another species into Conrad, and a combination of any of these.

50. A non-human transgenic animal having a functionally disrupted endogenous Conrad gene, in which the transgenic animal comprises in its genome and  
10 expresses a transgene encoding a heterologous Conrad protein.

51. A nucleic acid construct for functionally disrupting a Conrad gene in a host cell, the nucleic acid construct comprising: (a) a non-homologous replacement portion; (b) a first homology region located upstream of the non-homologous replacement portion, the first homology region having a nucleotide sequence with substantial identity to a first  
15 Conrad gene sequence; and (c) a second homology region located downstream of the non-homologous replacement portion, the second homology region having a nucleotide sequence with substantial identity to a second Conrad gene sequence, the second Conrad gene sequence having a location downstream of the first Conrad gene sequence in a naturally occurring endogenous Conrad gene.

20 52. A process for producing a Conrad GPCR polypeptide, the method comprising culturing a host cell according to Claim 8 under conditions in which a nucleic acid encoding a Conrad GPCR polypeptide is expressed.

53. A method of detecting the presence of a nucleic acid according to claim 2, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID  
25 NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID  
30 NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, in a sample, the

method comprising contacting the sample with at least one nucleic acid probe which is specific for said nucleic acid and monitoring said sample for the presence of the nucleic acid.

54. A method of detecting the presence of a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, in a sample, the method comprising contacting the sample with an antibody capable of binding specifically to a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17, or a homologue, variant, derivative or fragment thereof, or a polypeptide according to claim 5, or part thereof or to a polypeptide encoded by a nucleic acid encoding a Conrad GPCR polypeptide comprising the amino acid sequence shown in SEQ ID NO: 3, SEQ ID NO: 5, SEQ ID NO: 9, SEQ ID NO: 11, SEQ ID NO: 14 or SEQ ID NO: 17 or a homologue, variant, derivative or fragment thereof, wherein the nucleic acid optionally comprises the nucleic acid sequence shown in SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 10, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 15, SEQ ID NO: 16 or SEQ ID NO: 18, or a homologue, variant, derivative or fragment thereof, and wherein the nucleic acid may further optionally encode a polypeptide which comprises one or more regions which are homologous between a pair of sequences selected from one of SEQ ID NO: 3 and SEQ ID NO: 9, and one of SEQ ID NO: 5 and SEQ ID NO: 11, or which comprises one or more regions which are heterologous between the pair, or part thereof, and monitoring said sample for the presence of the polypeptide.

55. A method of diagnosis of a disease or syndrome caused by or associated with increased, decreased or otherwise abnormal expression of Conrad GPCR, the method comprising the steps of. (a) detecting the level or pattern of expression of Conrad GPCR in an animal suffering or suspected to be suffering from such a disease; and (b) comparing the level or pattern of expression with that of a normal animal.

56. A diagnostic kit, according to Claim 40, in which the disease is selected from the group consisting of: long QT syndrome-4 with sinus bradycardia disease, mental

health wellness-2 disease, psoriasis or susceptibility to psoriasis, dentin dysplasia, type II disease and neutropenia, neonatal alloimmune disease

57. A method according to Claim 41, 42 or 55, in which the disease is selected from the group consisting of: long QT syndrome-4 with sinus bradycardia disease, mental health wellness-2 disease, psoriasis or susceptibility to psoriasis, dentin dysplasia, type II disease and neutropenia, neonatal alloimmune disease.

58. A method according to Claim 45, in which the disease is selected from the group consisting of: long QT syndrome-4 with sinus bradycardia disease, mental health wellness-2 disease, psoriasis or susceptibility to psoriasis, dentin dysplasia, type II disease and neutropenia, neonatal alloimmune disease.

59. An agent according to Claim 46, in which the disease is selected from the group consisting of: long QT syndrome-4 with sinus bradycardia disease, mental health wellness-2 disease, psoriasis or susceptibility to psoriasis, dentin dysplasia, type II disease and neutropenia, neonatal alloimmune disease.

60. A method of use according to Claim 47, in which the disease is selected from the group consisting of: long QT syndrome-4 with sinus bradycardia disease, mental health wellness-2 disease, psoriasis or susceptibility to psoriasis, dentin dysplasia, type II disease and neutropenia, neonatal alloimmune disease.